VENUS X2

User Manual

- Manual #: RGB-RD-UM-VENUS X2 E001
- Revision: V1.2

RGBlink

VENUS X2·User Manual

Thank you for choosing our products!
In order to allow you to learn how to use the video processor quickly, we bring you the detailed user Manual. You can read the introduction and directions before using the video processor, please read all the information we provide carefully to use our products correctly.

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Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms in This Manual and Equipment Marking

WARNING

Highlight an operating procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Amendment Records

The table below lists the changes to the Video Processor User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2015-06-11	0000#	Release	Vira
V1.1	2015-07-16	0001#	Add “Optional Module Installation and Replacement Instruction”	Vira
V1.2	2015-11-12	0002#	1. Update the product picture. 2. Update the back panel. 3. Update the dimensions drawing. 4. Update the menu tree. 5. Update the windows control program.	Vira

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1. Brief Introduction

This chapter is designed to introduce you to the VENUS X2 User Manual. Areas to be covered are:

- Chapter Structure
- How to Use the Manual
- Terms and Definitions
- System Overview
- Application Questions

Chapter Structure

The following chapters provide instructions for all aspects of VENUS X2 operations.

Chapter 1 Brief Introduction

Chapter 2 Hardware Orientation

Chapter 3 Hardware Installation

Chapter 4 Menu Orientation

Chapter 5 Communication Software Guideline

Appendix A Specification

Appendix B Contact Information

Appendix C Software Upgrade

Appendix D Optional Module Installation and Replacement Instruction

How to Use the Manual

Followings are important tips for streamlining your use of this User Manual in its electronic “PDF” form.

Navigation

Use Acrobat Reader’s “bookmarks” to navigate to the desired location. All chapter files have the same bookmark structure for instant navigation to any section. Please note:

- Extensive hyperlinks are provided within the chapters.
- Use Acrobat’s “**Go to Previous View**” and “**Return to next View**” buttons to trace your complete navigational path.

- Use the “**Previous Page**” and “**Next Page**” buttons to go to the previous or next page within a file.
- Use Acrobat’s extensive search capabilities, such as the “**Find**” tool and “**Search Index**” tool to perform comprehensive searches as required.

Table of Contents and Index

Use the Table of Contents bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You can also use the **Index** to jump to specific topics within a chapter. Each page number in the **Index** is a hyperlink.

General Operations

To ensure trouble-free operation, please follow all procedures as listed below:

- For detailed installation instructions, refer to chapter 3 “Hardware Installation” on page 30.
- For communication software control guide, refer to Chapter 5, “Communication Software Control Guide” on page 36.

Should you have any questions regarding the installation or operation of VENUS X2, please consult with the factory. Refer to Appendix B “Contact information” on page 67.

Term and Definitions

The following terms and definitions are used throughout this guide.

- **“ASCII”:** American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.
- **“Aspect ratio”:** The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the “:1” is implicit, making TV = 1.33 and HDTV = 1.78.
- **“AV”:** Audio visual or audio video.
- A **“Background”** is an unscaled source, typically originating from a computer. A background source appears at the system’s lowest priority — visually in back of all other sources.
- **“Baudrate”:** Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).
- **“Blackburst”:** The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.
- **“BNC”:** Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.
- **“Brightness”:** Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called “black level.
- “**CAT 5**”**:** Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.
- **“Color bars”:** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly

1. Brief Introduction

Terms and Definitions

- Used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.
- **“Color burst”:** In color TV systems, a burst of sub carrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.
- **“Color temperature”:** The color quality, expressed in degrees Kelvin (K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark color temperature for the A/V industry includes 5000°K, 6500°K, and 9000°K.
- **“Contrast ratio”:** The radio of the high light output level divided by the low light output level. In theory, the contrast radio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.
- **“DVI”:** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.
- **“EDID”:** Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.
- **“Ethernet”:** A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.
- **“Frame”:** In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.

1. Brief Introduction

Terms and Definitions

- **“Gamma”:** The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.
- **“HDMI” - High – Definition Multimedia Interface:** An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.
- **“HDSDI”:** The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exist including progressive 1280x720 and interlaced 1920x1080 resolutions. Up to 32 audio signals are carried in the ancillary data.
- **“JPEG” (Joint photographic Expects Group):** Commonly used method of loss compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.
- **“MPEG”:** Motion Picture Expect Group. A standard committee under the auspices of the International Standards Organization working on algorithm standards that allows digital compression, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM bandwidth. The MPEG algorithm provides inter-frame compression of video images and can have an effective compression rate of 100:1 to 200:1.
- **“NTSC”:** The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.
- **“PAL”:** Phase Alternate Line. A television standard in which the phase of the color carrier is alternated from line to line. It takes four full pictures (8 fields) for the color-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, in many transmission forms, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line,

50-filed (25 fps) composite color transmission system.

- **“Operator”:** Refers to the person who uses the system.
- **“PIP”:** Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.
- **“Polarity”:** The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).
- **“RJ-45”:** Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires used for connecting Ethernet devices.
- “**RS-232”:** An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.
- **“Saturation”:** Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.
- **“Scaling”:** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.
- **“SDI”:** Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.
- **“Seamless Switching”:** A feature found on many video switchers. This

feature causes the switcher to wait until the vertical interval to switch. This avoids a glitch (temporary scrambling) which normally is seen when switching between sources.

- **“SMPTE”:** Society of Motion Picture and Television Engineers. A global organization, based in the United States that sets standards for base band visual communications. This includes film as well as video and television standards.
- **“S-Video”:** A composite video signal separated into the luma (“Y” is for luma, or black and white information; brightness) and the chroma (“C” is an abbreviation for chroma, or color information).
- **“Sync”:** Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system. (Also known as “sync signal” or “sync pulse.”)
- **“TCP/IP”:** Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.
- **“USB”:** Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.
- **“VESA”:** Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org
- **“VGA”:** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It

has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.

- **“YCrCb”:** Used to describe the color space for interlaced component video.
- **“YPbPr”:** Used to describe the color space for progressive-scan (non-interlaced) component video.

System Overview

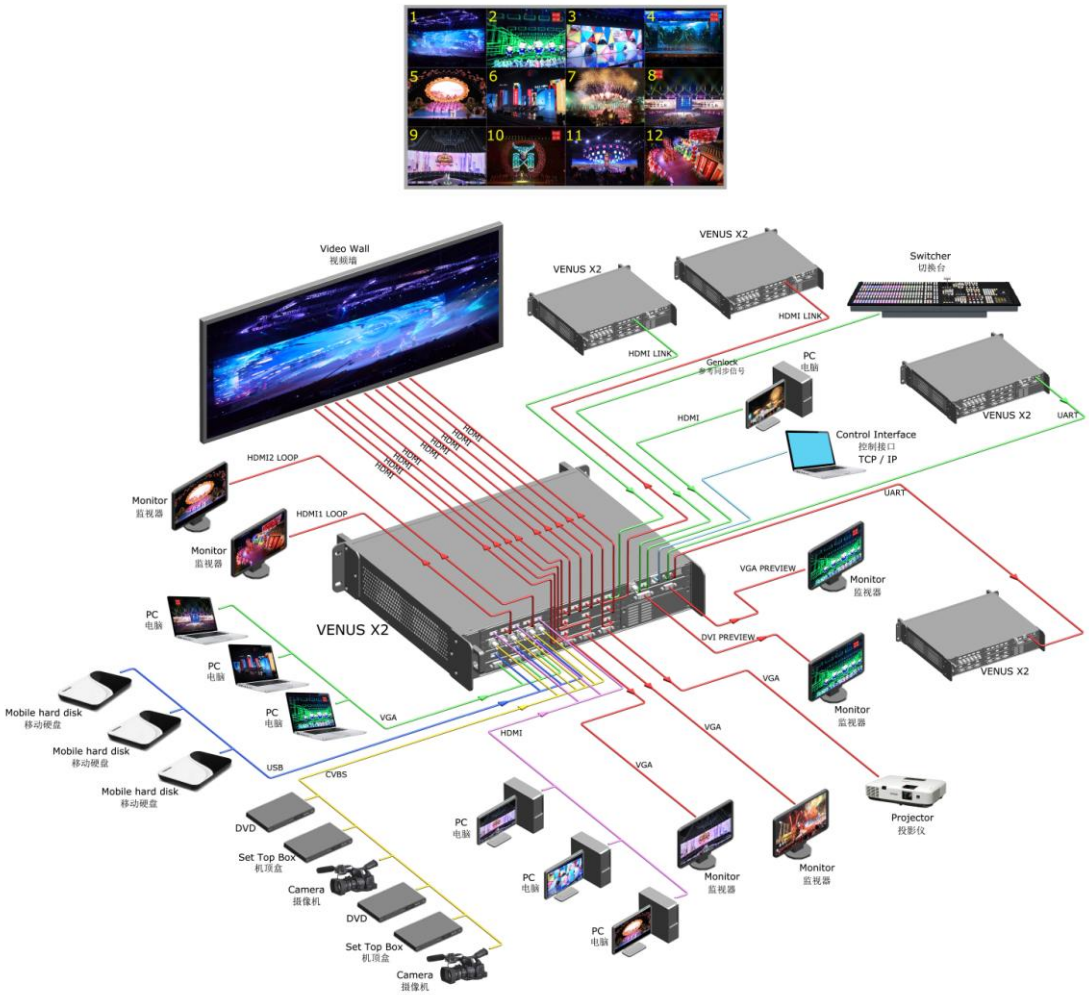
VENUS X2 is a multiple outputs video processor, it offers nine card cages that accepts a wide variety of video signals, including VGA, CVBS, HDMI, SDI and USB (for media files play). VENUS X2 combines truly seamless, fade in fade out, glitch-free switching with advanced scaling technologies to meet the requirements of high quality, high resolution video presentations.

VENUS X2 supports EDID editing for VGA, HDMI input ports and read EDID for output ports, the EDID can be modified by windows control program, users can edit the EDID of input port according to the resolution of outputs to achieve the optimal input resolution.

VENUS X2 also supports resolution real-time total adaptation, color uniformity compensation technology and 90°, 180° and 270° rotate. In addition, it supports local front panel operation, remote widows based software control by Ethernet, and WIFI control. In addition, VENUS X2 is based on replaceable input optional modules structure, with different modules, you can reach more possibility and application range.

Application Questions

RGBlink offers solutions to demand technical problems. Any application questions, or required further information, please contact with our Customer Support Engineers. Refer to Appendix B for contact details.



2. Hardware Orientation

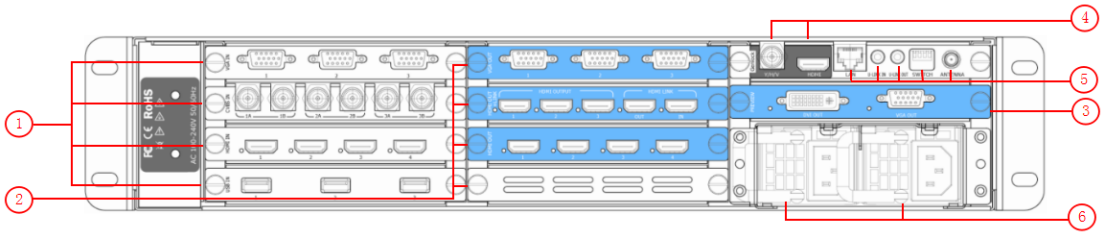
In This Chapter

This chapter provides detailed information about the VENUS X2 hardware. The following topics are discussed:

- VENUS X2 Back Panel
- VENUS X2 Front Panel

VENUS X2 Back Panel

The figure below illustrates the professional interface and control signals of VENUS X2 back panel.



Chassis Module Structure			
1	4 input module slots	4	Genlock interface
2	4 program output module slots	5	Control interface
3	1 preview output module slot	6	Power module

Input Module Slots

VENUS X2 offers 4 input module slots, supports input signals including VGA, CVBS, HDMI, USB and SDI. Each VGA optional module includes 3 VGA inputs (DB15port), each CVBS optional includes 6 CVBS inputs (BNC port), each HDMI optional module includes 4 HDMI inputs, each USB optional includes 3 USB inputs, each SDI optional module includes 4 3G-SDI inputs.

VGA Input

VGA input, input the video signal from HD player and computer, etc. compatible with YPbPr signal, input signal via the DB15 interface.

CVBS Input

CVBS input, input standard video signal from players, cameras etc., supported resolution 480i and 576i via BNC. Supported standards include: PAL, NTSC and SECAM.

HDMI Input

HDMI input, input the image signal from computer.

2. Hardware Orientation

VENUS X2 Back Panel

USB Input

USB input, can access the USB device or mobile hard disk with USB storage function. Support general image and video formats.

3G-SDI Input

3G-SDI input, input video signal from HD camera and radio processing equipment, connect SDI interface via 75 ohms impedance BNC port.

Program Output Module Slots

VENUS X2 offers 4 program output module slots, supports VGA, HDMI and SDI signal. Each VGA optional module includes 3 VGA outputs, each HDMI optional module includes 4 HDMI outputs, each SDI optional module includes 4 SDI outputs, each HDMI OUT+LINK optional module includes 3 HDMI outputs, 1 HDMI LINK input and 1 HDMI LINK output.

VGA Output

Connect to the monitor or LED display which has VGA interface.

(This connector does not support hot-plugging)

HDMI Output

Connect to the display device, video processor or matrix.

SDI Output

Connect to the next level device with SDI input.

HDMI LINK Output

Connect to the HDMI LINK input of the next VENUS X2, which is for cascade.

HDMI LINK Input

Connect to the HDMI LINK output of the next VENUS X2, which is for cascade.

2. Hardware Orientation

VENUS X2 Back Panel

Preview Output Module Slot

VENUS X2 offers 1 preview output module slots, each preview optional module includes 1 DVI output and 1 VGA output.

DVI Output

Connect to the monitor or LED display which has DVI interface.

(This DVI connector does not support hot-plugging).

VGA Output

Connect to the monitor or LED display which has VGA interface.

(This VGA connector does not support hot-plugging)

Genlock Interface

Includes 1 genlock input and 1 HDMI output.

Genlock Input

Input signal from the controller or signal generator and other devices.

HDMI Input

HDMI input, input the image signal from computer.

Control Interface

Includes 1 LAN port, 1 U-LINK, 1 U-LINK OUT, 1 DIP switch and 1 antenna port.

10/100M UDP Interface

Used to connect the windows control program or device upgrade.

U-LINK In Interface

Connect to the U-LINK output of the next VENUS X2, adopt 3.5mm analog audio interface, for multiple cascade.

U-LINK OUT Interface

Connect to the U-LINK input of the next VENUS X2, adopt 3.5mm analog audio interface, for multiple cascade.

DIP Switch

Can set the machine code, which is for identify the machine cascade.

Antenna

To install the antenna of the wireless network card.

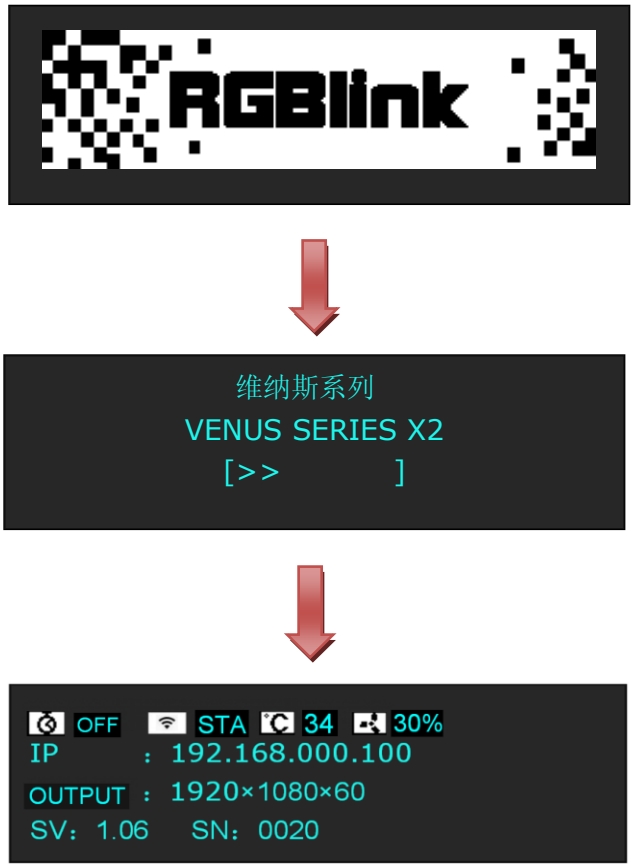
Illuminated Power Switch and Power

Power Module

AC 100-240V, 4A, 50/60Hz, IEC-3 power interface.

VENUS X2 Front Panel

Plug in the power cord, OLED module on the front panel will show as follows, user can operate VENUS X2 through the menus on OLED module.



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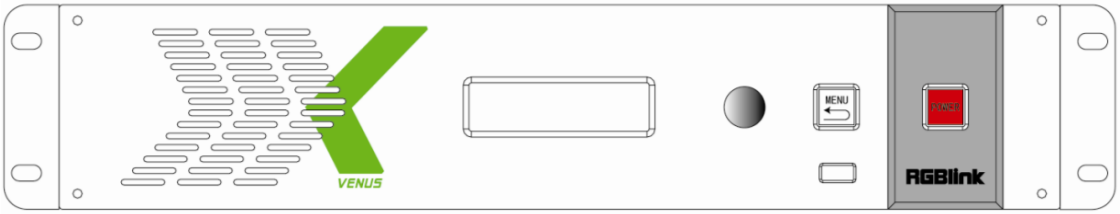
2. Hardware Orientation

VENUS X2 Front Panel

VENUS X2 front panel is as following:



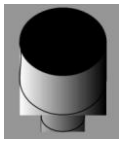
OLED Panel

Used to show button menu and menus for interactive communication.

USB Interface

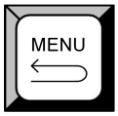
Used to device upgrade.

Menu Button



Used to adjust menu on OLED and for information interaction. Push the knob button to confirm current options.

Function Button



Menu and exit function reuse key. Push the button to enter to the menu items. Turn the knob to choose the menu and push the knob to confirm. Push the button again to return to the last level menu or exit the menu.

For more details, please refer to MENU part.

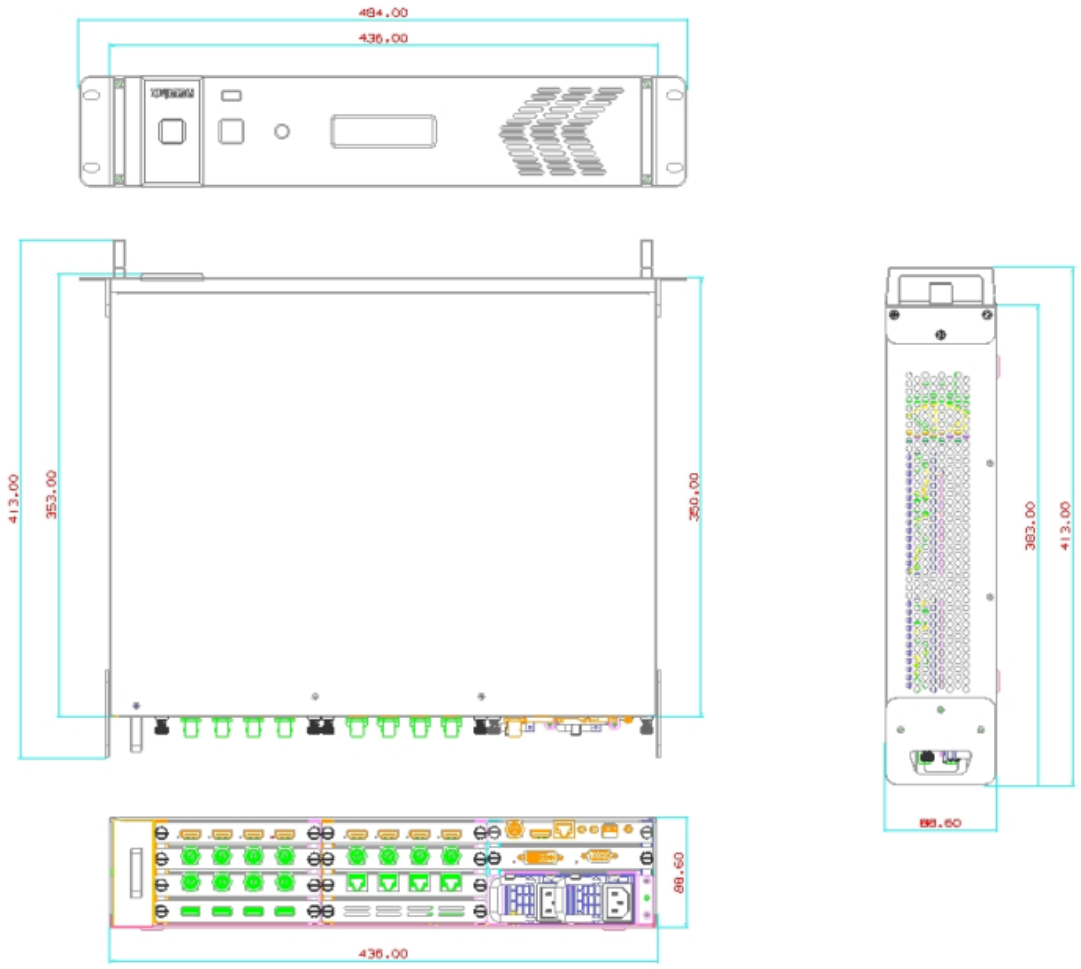
Power button, push the button, the touch screen will pop up the confirm box, choose “OK”, and turn the device off.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VENUS X2 hardware.

Following is the size of VENUS X2 for your reference.



Safety Precautions

For all VENUS X2 processor installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

- To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
- The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening VENUS X2 process shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your VENUS X2 should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

4. Menu Orientation

In This Chapter

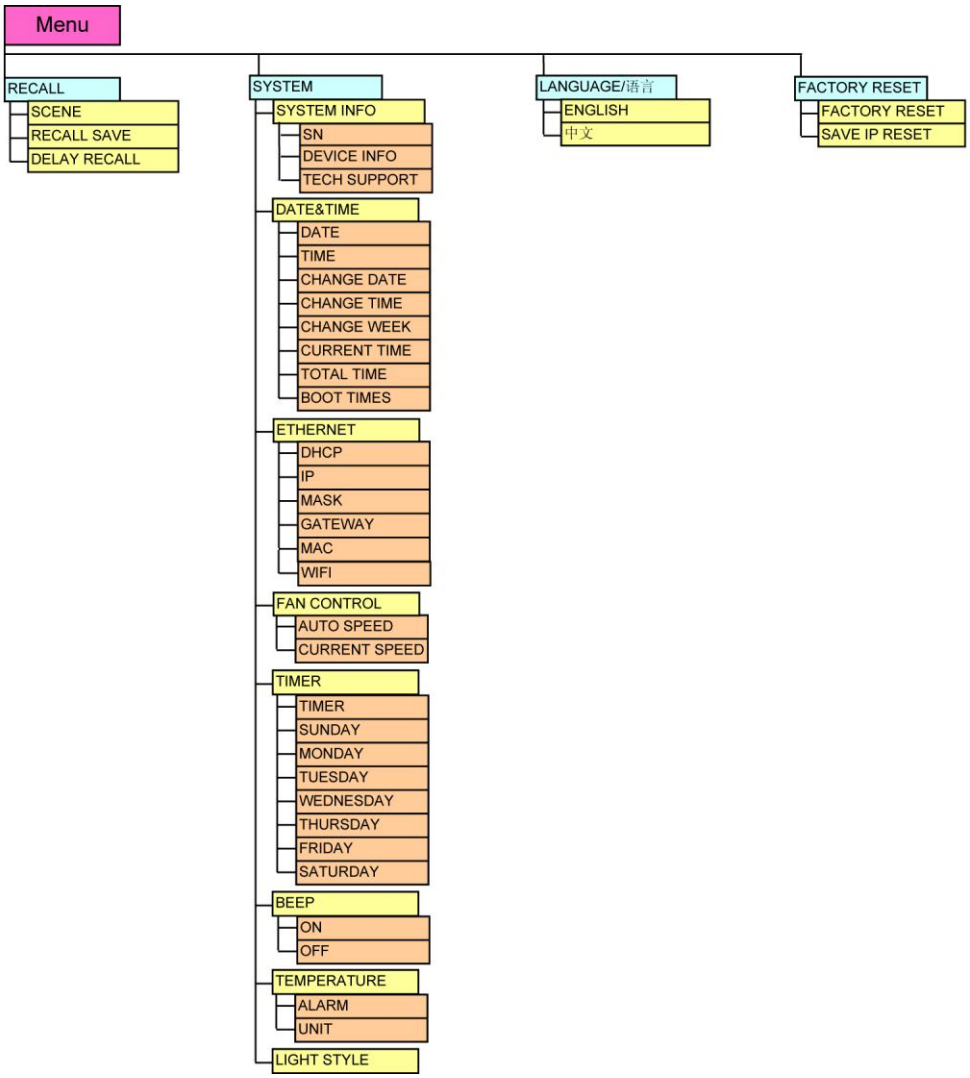
This chapter describes all VENUS X2 processor menus, including how they are accessed, the functions that are available, and descriptions of each menu tree (in block diagram format).

The following topics are discussed:

- **MENU**
  - RECALL
  - SYSTEM
  - LANGUAGE
  - FACTORY RESET

MENU

Push the [MENU] button to menu items as follows. Turn the knob to select menu items. -> before the menu means it's in selected state. Push the knob to enter corresponding setting or view the menu.



RECALL

Push the [MENU] button to go into the menu items, turn the knob button to select <RECALL>, show menus as follows:

SCENE: VENUS X2 provides 16 scenes, users can save the current operation to SCENE 1 to SCENE 16.

RECALL SAVE: It can recall the saved user modes via this function.

4. Menu Orientation

MENU

DELAY CALL: When multiple device power on, and the processor is the end device, in order to improve the problem that can't identify the input signal or the phenomenon that LED screen appear messy code and flash screen, it needs to set the delay boot time.

SCENE: Choose the scene that will delay call.

SAVE PAGE: Choose the save page that will delay call.

DELAY TIME: Set the delay time.

SYSTEM

Push the [MENU] button to go into the menu items, turn the knob button to select <SYSTEM>, show menus as follows:

SYSTEM INFO: Show the serial number, device information and tech support information, shown as follows:

SN: Show the serial number of the device.

DEVICE INFO: Show the version of input card, output card, COM. CARD and KEYPAD.

TECH SUPPORT: Show the factory sales, customer service, email and other contact information, etc.

DATE&TIME: User can view and change the date, time and week, view the current time, total time and boot times.

ETHERNET: DHCP, IP, mask, gateway, MAC and WIFI setting. User can enable or disable the DHCP function. System default IP address is 192.168.000.100, mask is 255.255.255.000, gateway is 192.168.000.001.

User can enable or disable the WIFI function. When choose "ON", choose the WIFI mode, user can choose STA or AP mode, and then scan the network, etc.

FAN CONTROL: User can able or disable the auto speed function, and set the current speed.

TIMER: User can set the timer power on and timer power off from Sunday

to Saturday. When set timer as “ON”, the device will perform the timer tasks.

BEEP: User can enable or disable the beep function.

TEMPERATURE: The settings are as follows:

ALARM: Set the alarm temperature. The device will alarm when reach the alarm temperature.

UNIT: User can set the unit as ℃ or ℉.

LIGHT STYLE: VENUS X2 provides 8 kinds of light styles, user can choose the mode 0 to mode 7 according to actual need.

LANGUAGE

Through this option, user can choose Chinese or English according to their needs to operate the interface more quickly.

FACTORY RESET

Enter FACTORY RESET to reset the IP, choose YES and push the knob to confirm, then VENUS X2 is reset to its factory settings. It is ready for more operations after complete factory setting.

5. Communication Software Guideline

In This Chapter

This chapter provides detailed information about the control communication software. The following topics are discussed:

- Software Installation
- Software Operation

Software Installation

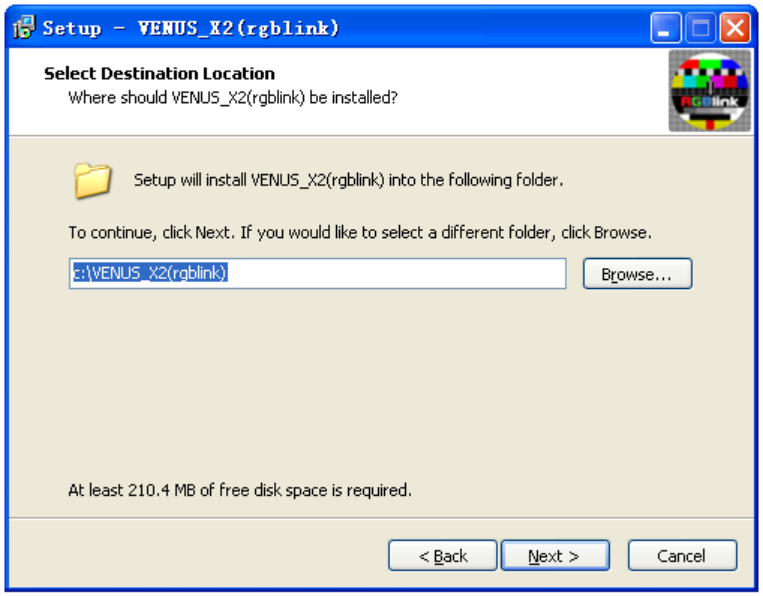
VENUS X2 video processor is very easy to configure with user friendly communication software, support drag and drop operation for edit and display.

Double click

to install, click “Next” to next dialog:

Setup - VENUS_X2(rgblink)
Welcome to the VENUS_X2(rgblink) Setup Wizard
This will install VENUS_X2(rgblink) version 1.5.1.1 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
RGBlink
Next >
Cancel

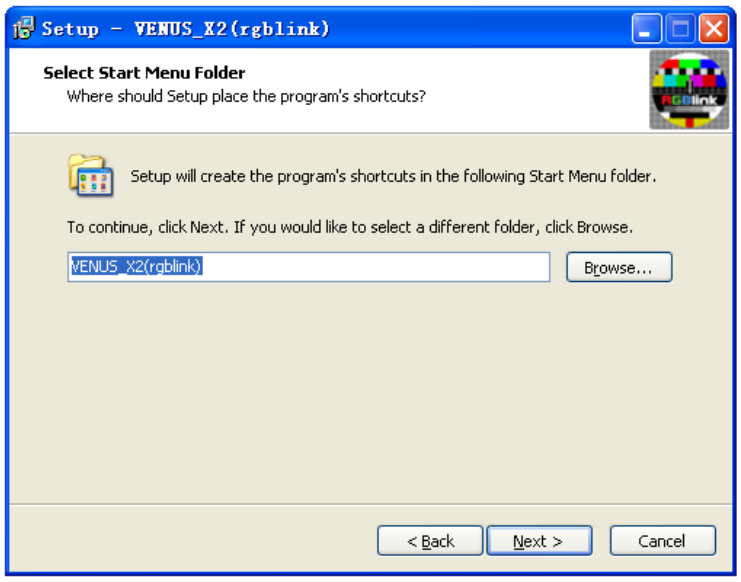
Select “Browse...” to choose the VENUS X2 software install path:


Setup - VENUS_X2(rgblink)
Select Destination Location
Where should VENUS_X2(rgblink) be installed?
Setup will install VENUS_X2(rgblink) into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
c:\VENUS_X2(rgblink)
Browse...
At least 210.4 MB of free disk space is required.
< Back
Next >
Cancel

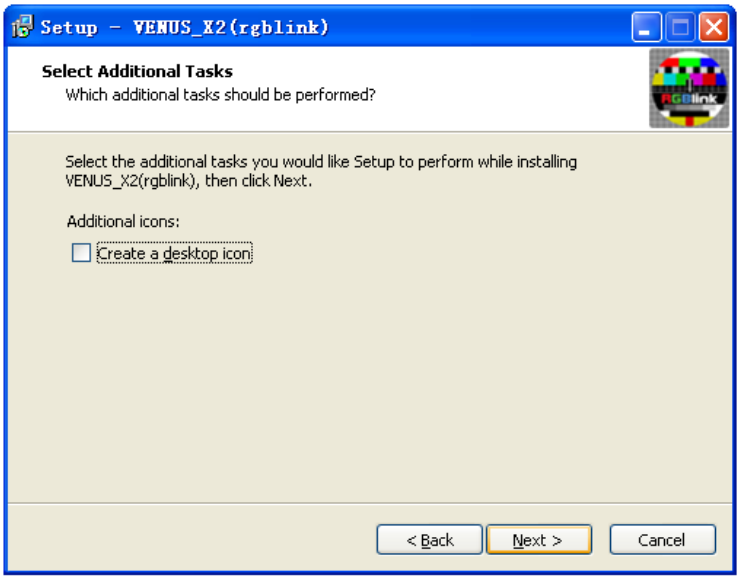
5. Communication Software Guideline

Software Installation

Click “Next” to go on:


Setup - VENUS_X2(rgblink)
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
VENUS_X2(rgblink)
Browse...
< Back
Next >
Cancel

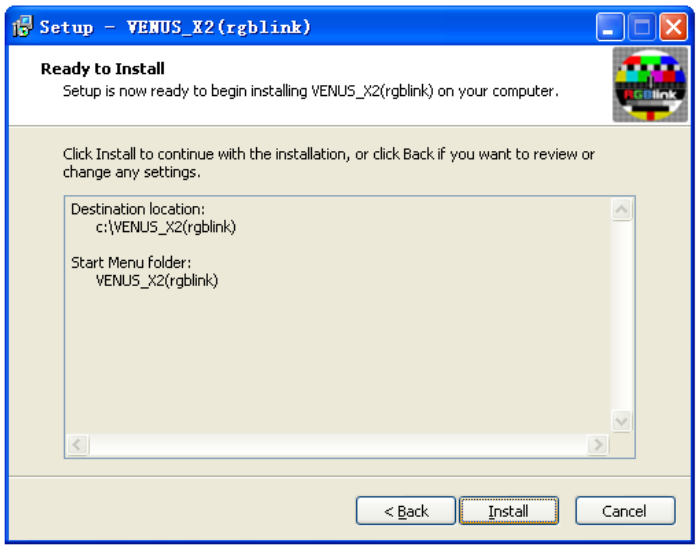
Click “Next” to go on:

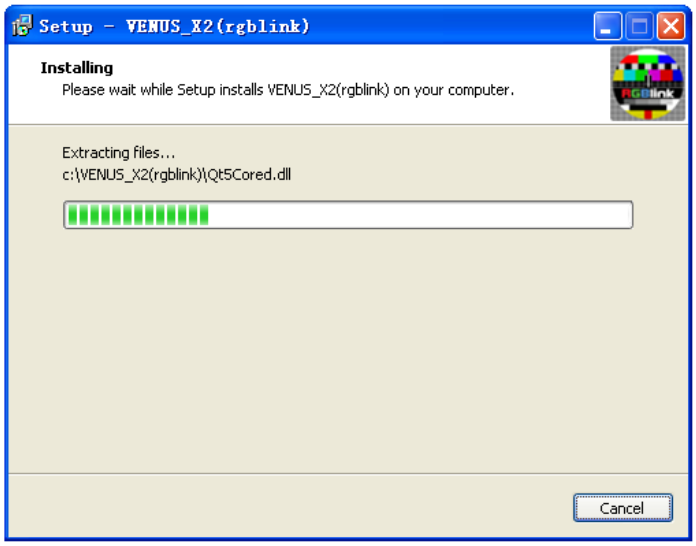

Setup - VENUS_X2(rgblink)
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing VENUS_X2(rgblink), then click Next.
Additional icons:
Create a desktop icon
< Back
Next >
Cancel

Click “Install” to go on:

5. Communication Software Guideline

Software Installation


Setup - VENUS_X2(rgblink)
Ready to Install
Setup is now ready to begin installing VENUS_X2(rgblink) on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
c:\VENUS_X2(rgblink)
Start Menu folder:
VENUS_X2(rgblink)
< Back
Install
Cancel



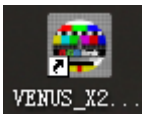
Click “Finish” and ready to run VENUS X2 windows control program:

Setup - VENUS_X2(rgblink)
Completing the VENUS_X2(rgblink) Setup Wizard
Setup has finished installing VENUS_X2(rgblink) on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch VENUS_X2(rgblink)
RGBlink
Finish

Software Operation

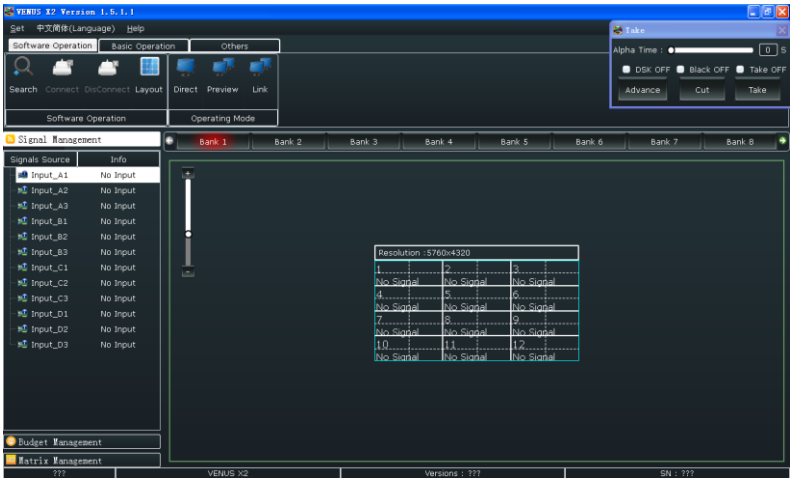
Software Operation

Connect

Double click the icon 

on the desktop. Log in interface will be enter after opening, the user's name is admin, and there is no pass word, enter into the software by clicking "confirm".

VENUS X2 communication software interface is shown as follows.

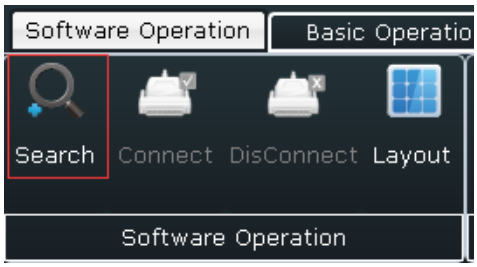


First, connect the VENUS X2 to the computer with the network cable and open the device.

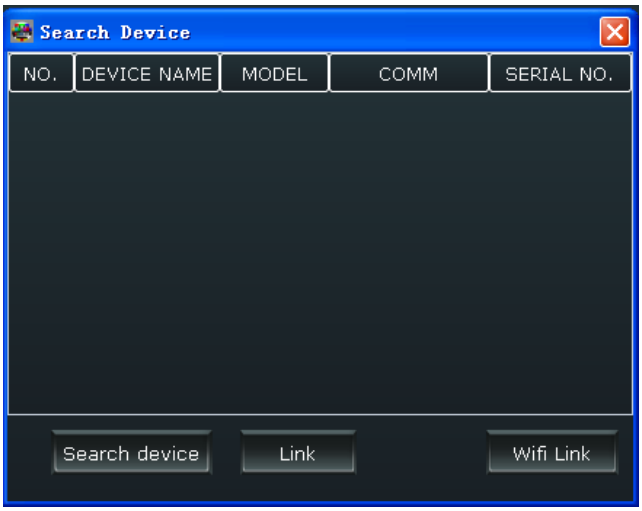
5. Communication Software Guideline

Software Operation

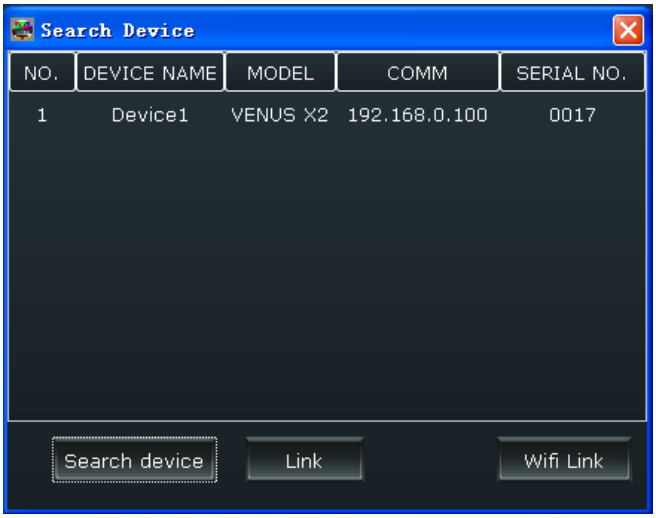
Then, choose “Search” below “Software Operation”.



Enter to the software interface as below:



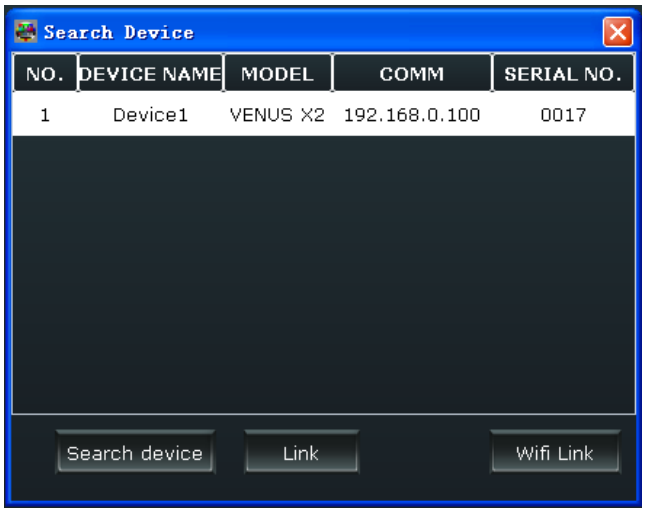
Click “Find Device”, and enter to the software interface as below:



Finally, choose device name, as shown below, then click “Device Link”, and finish connecting.

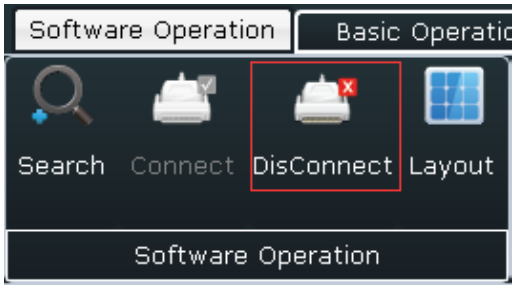
5. Communication Software Guideline

Software Operation



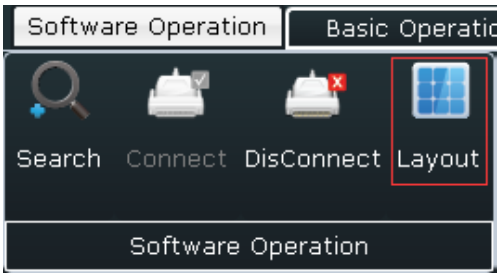
Disconnect

Click the shortcut key “Disconnect” below “Software Operation” to disconnect the device.



Layout

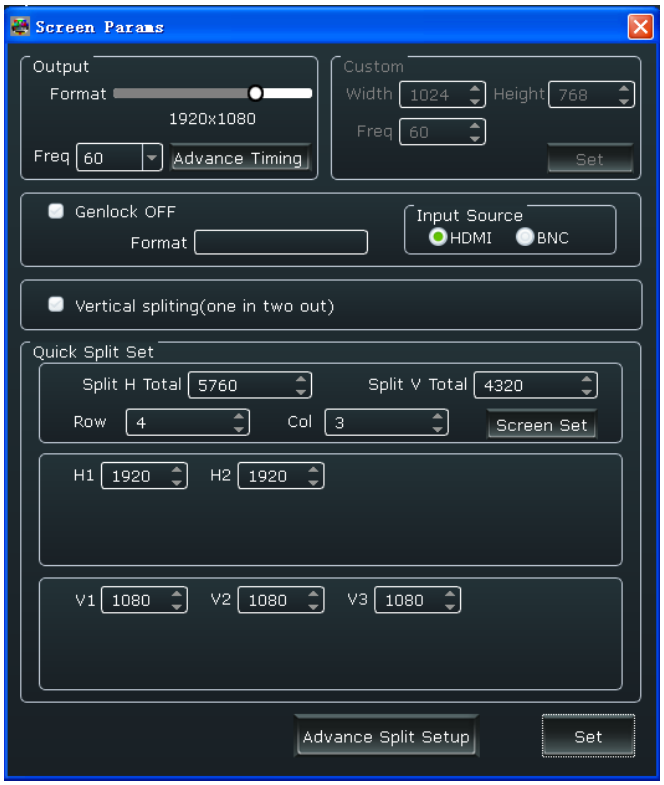
Click the shortcut key “Layout” below “Software Operation”.



Enter to the software interface as below:

5. Communication Software Guideline

Software Operation



Output: Choose the output format according to actual need. “Advance Timing” can change various parameter value of output screen, click “Set” after changing. The software interface is shown as follows:

Custom: If choose “Custom” in output, user can set custom resolution.

Genlock: Choose the genlock format.

Input Source: Choose input source as HDMI or BNC.

Vertical spliting (one in two out): It is mainly for doing vertical split with dual graphics cards computer.

5. Communication Software Guideline

Software Operation

Quick Split Set: Set the split H total, split V total, row and column, user can set the width and height of the output screen.

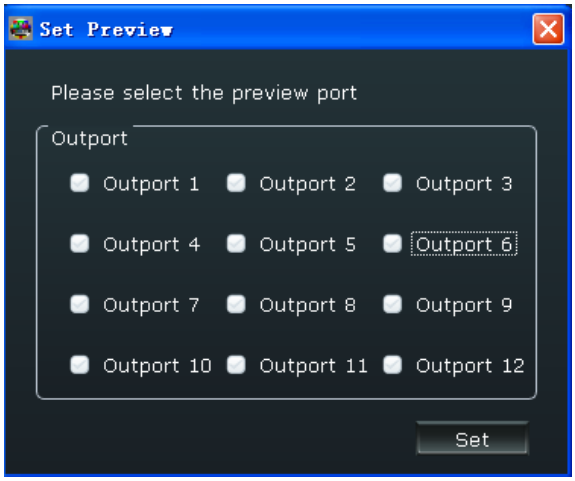
Advance Split Setup: Choose the port, and set X, Y, Width, Height and Rotate.

Output Port Settings
Port 1 X 0 Y 0 Width 1920 Height 1080 Rotate No Rotate
Port 2 X 1920 Y 0 Width 1920 Height 1080 Rotate No Rotate
Port 3 X 3840 Y 0 Width 1920 Height 1080 Rotate No Rotate
Port 4 X 0 Y 1080 Width 1920 Height 1080 Rotate No Rotate
Port 5 X 1920 Y 1080 Width 1920 Height 1080 Rotate No Rotate
Port 6 X 3840 Y 1080 Width 1920 Height 1080 Rotate No Rotate
Port 7 X 0 Y 2160 Width 1920 Height 1080 Rotate No Rotate
Port 8 X 1920 Y 2160 Width 1920 Height 1080 Rotate No Rotate
Port 9 X 3840 Y 2160 Width 1920 Height 1080 Rotate No Rotate
Port 10 X 0 Y 3240 Width 1920 Height 1080 Rotate No Rotate
Port 11 X 1920 Y 3240 Width 1920 Height 1080 Rotate No Rotate
Port 12 X 3840 Y 3240 Width 1920 Height 1080 Rotate No Rotate
Set

Operating Mode

: Output the signal to LED display.

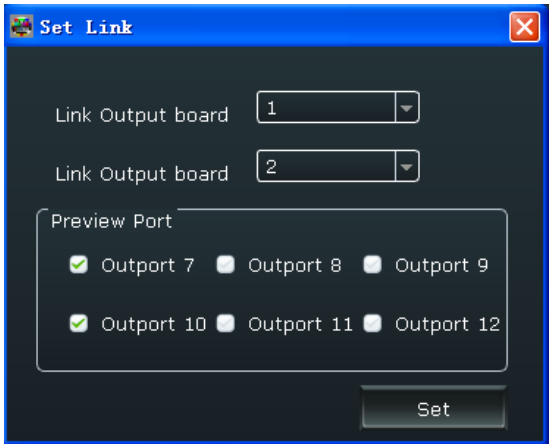
: Output the signal to the monitor, click “Take” or “Cut” in “Take” box to seamless switch the signal to LED display. If select “Take Out” or “Black”, the preview image will seamless switch or black to LED display instantaneously. System default outputs 1.4.7.10 as preview port, user can choose the previews according to actual need, there are max 2 preview ports in one output card.



5. Communication Software Guideline

Software Operation

: In link mode, user can choose the “Link Output Board” for multi-image operation. The link output board can not output the image, user can choose the preview output, system default the outputs that not selected as program output.



Basic Operation

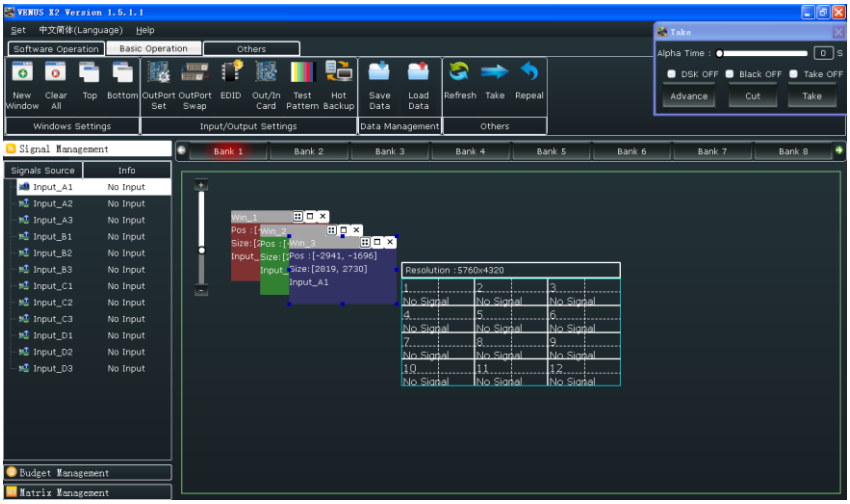
Windows Settings

New Window: In output screen zone of controlling software, press the left mouse key and drag on the intended output screen to cover the whole current screen. And the below interface will be displayed. A window can be opened by click the shortcut key of “New Window”

, or double click the left signal source to be shown on the window.

5. Communication Software Guideline

Software Operation



Paste Layer: Put the mouse on the window to be copied, right click the mouse, select “Copy Layer”, then right click in output screen zone of controlling software, and select “paste Layer”.

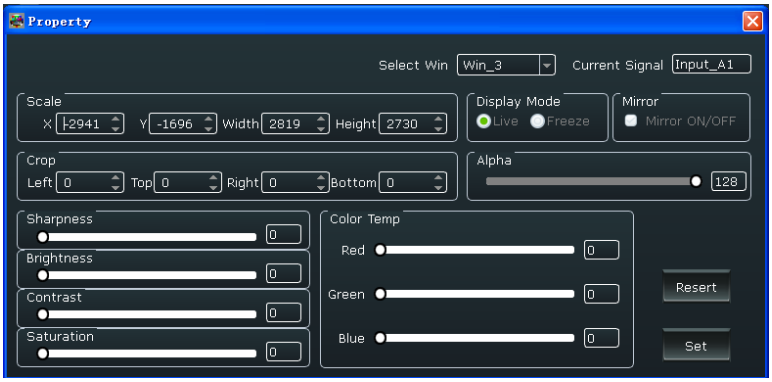
Adjust Window: Two ways can change the size and location of the opened window:

a. Drag and drop the opened window by mouse. The details are: move the mouse to the lower right brink of the opened window, when the mouse shows”<—>”, press the left key of the mouse and drag the window to a suitable size and then release the mouse. Move the mouse to the opened window and press the left key of the mouse and move the mouse, then the window will be moved, release the mouse when moved to the suitable location. But this method can only adjust the size and location roughly; if an accurate adjustment is needed, the second method can be used.

b. Put the mouse on the window to be adjusted, right click the mouse. Select the “Property” and the exemplary interface will appear, adjust precisely by “X”, “Y”, Width” and “Height’.

5. Communication Software Guideline

Software Operation



Full or Close Window: Click the icon " " at the upper right corner to full cell and click the icon " " at the upper right corner to full screen. Or put the mouse on the window to be adjusted, right click the mouse, select the "Full Cell" or "Full Screen".

When a window needs to be closed, click the icon " " at the upper right corner, or put the mouse on the window to be closed, right click the mouse, select the "Close". If all windows need to be closed, click the shortcut key "

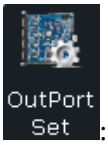
", or put the mouse on any window, right click the mouse, select the "Close All".

Hierarchical relations between windows: After creating the windows, the hierarchical relations can be changed by the following: click the shortcut key "

" or "

". Or put the mouse on the window to be adjusted, right click the mouse, select the "Bring layer to Front", "Send layer to Back", "Layer Forward" or "Layer Backward", the window can also be set as Background.

Input/Output Settings

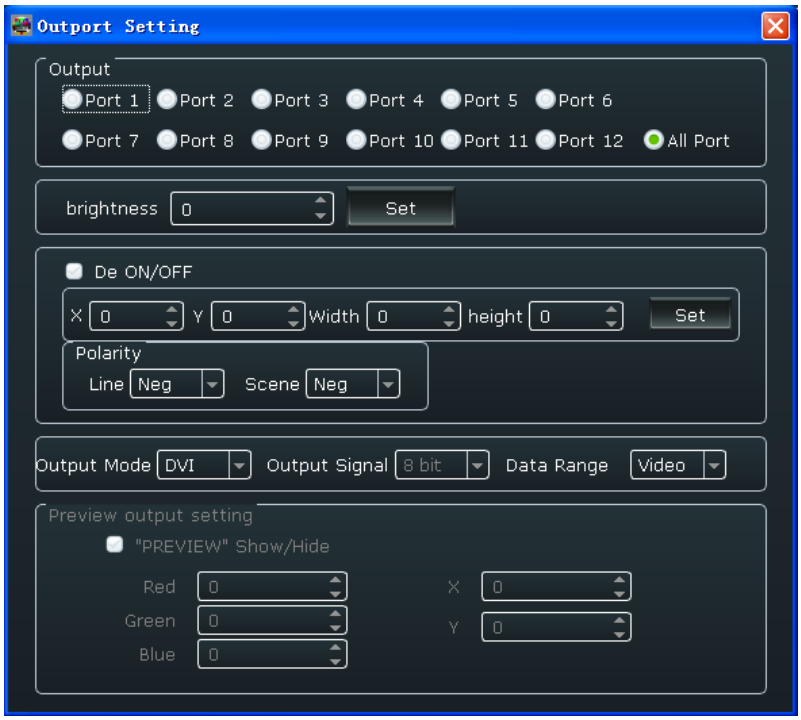


: Out Port Set, user can choose one port or choose all ports and set the

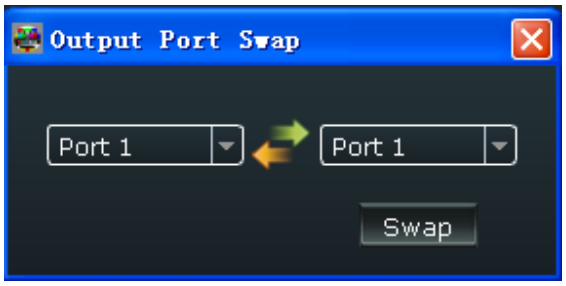
5. Communication Software Guideline

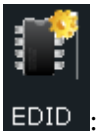
Software Operation

DE. X, Y, Width, Height, and choose output mode, output signal, data range and polarity.



: Click the Out Port Swap shortcut key, or put the mouse on the output to be adjusted, right click the mouse, select “Out port Swap” to swap the out ports.

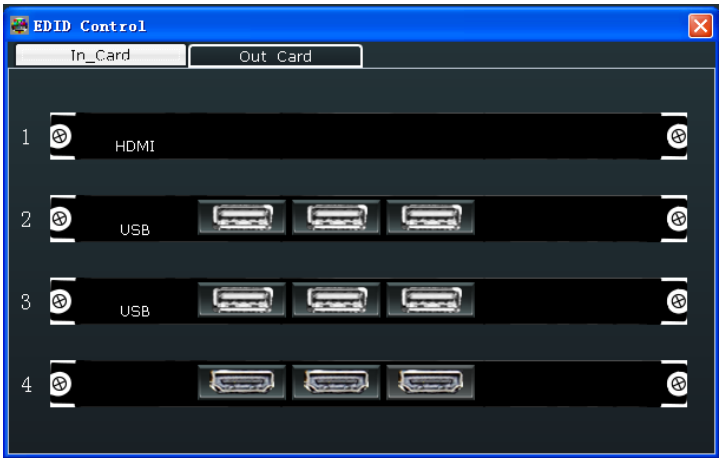




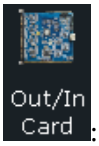
: The special display project or LED display application would like to require special resolution settings to meet the requirement. The interface is as follows:

5. Communication Software Guideline

Software Operation



Choose In_Card or Out Card, and click any input port to read or write EDID.

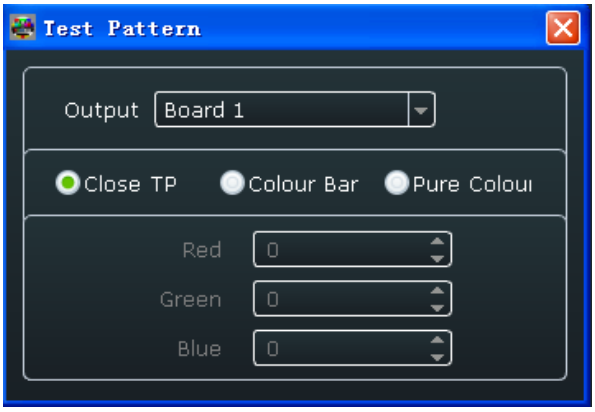


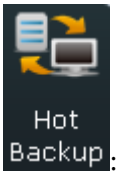
: Show the information of input or output card.

5. Communication Software Guideline

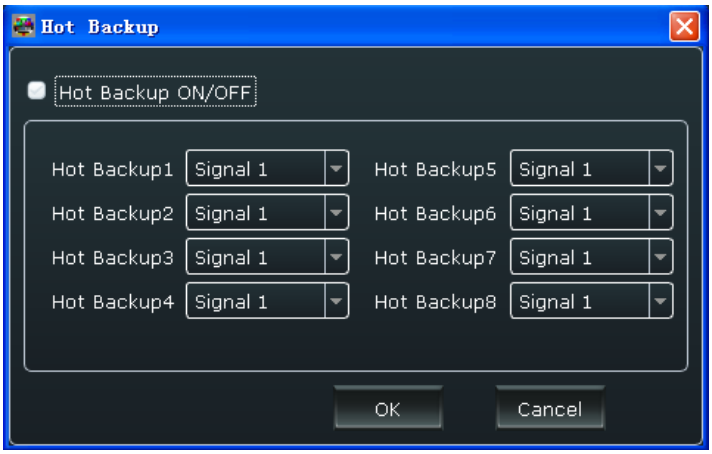
Software Operation

: User can open or close the TP function, choose the output port, and choose color bar or pure color. User need to set the red, green and blue value if choose pure color.





: User can enable or disable the hot backup function. Choose “ON” to set the backup signal for Hot Backup 1 to Hot Backup 8. It will switch to the backup signal if interrupt signal.

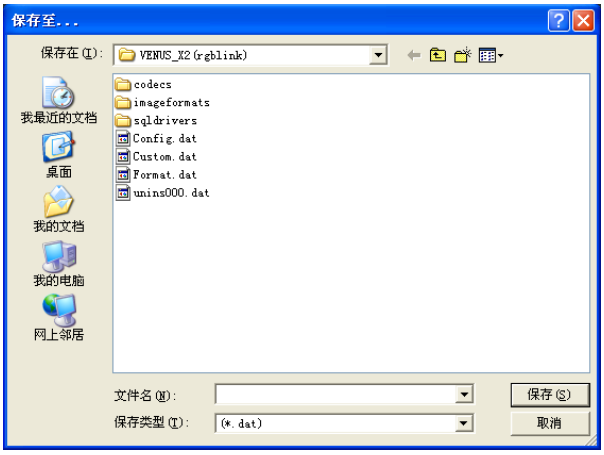


Data Management

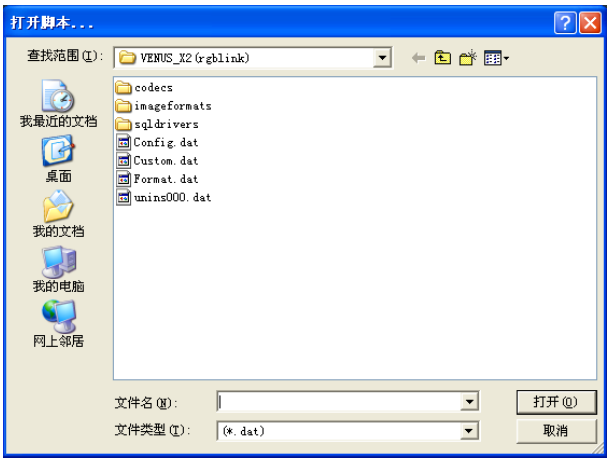
: Save the data to the computer hard drive.

5. Communication Software Guideline

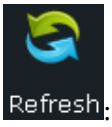
Software Operation



: Load the data from the computer.

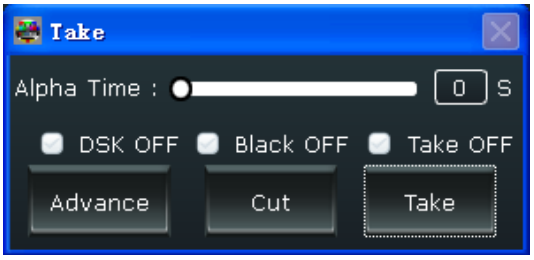


Others



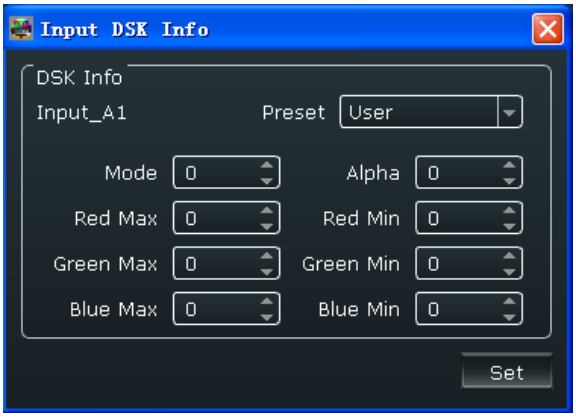
: Refresh the current page.

: Click “Take”, and pop up the window as follows:



Set the alpha time, the adjustment range is 0~10S.

Click “ Advance” in “Take” box, and set the DSK parameters in the dialog, including preset, mode, alpha and color.



Click “Take” or “Cut” in “Take” box to seamless switch the preview signal to LED display. If select “Take ON” or “Black ON”, the preview image will seamless switch or black to LED display instantaneously.

: Cancel the last operation.

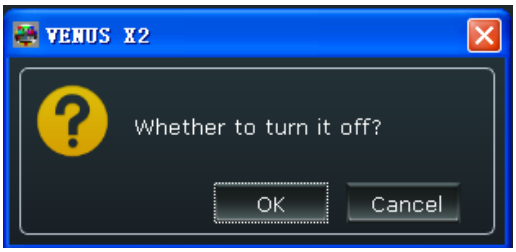
Others

Power

: Click “Power Off” icon, the system will prompt “Whether to turn it off”, click “OK” to close the device.

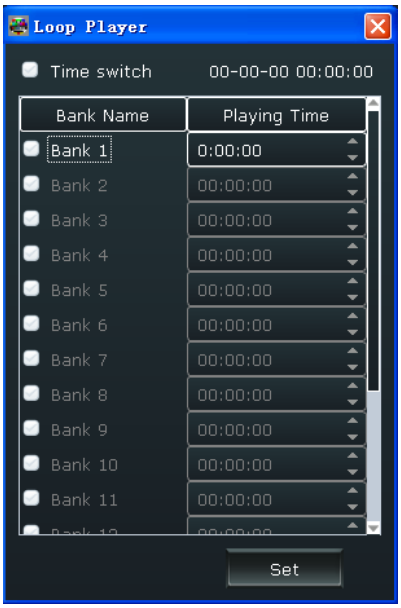
5. Communication Software Guideline

Software Operation



Bank

: Loop function for the bank, set the bank play time.

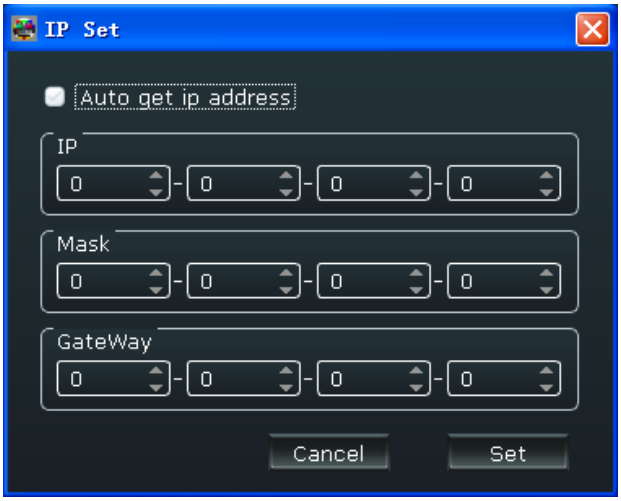


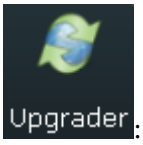
Factory Settings

: Reset to factory settings.

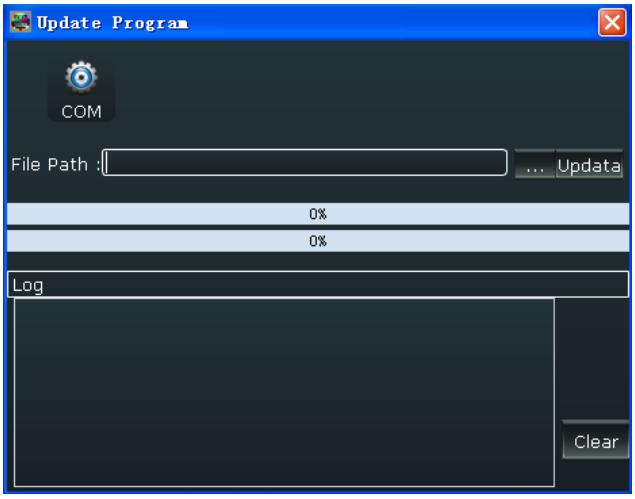
: Users can set equipment IP, mask and gateway, usually used when one computer control some devices or remote control. It takes effect immediately if users change IP through serial port, and if change IP through

network, it takes effect after reopen the software. If choose “Auto get ip address”, user need not set the IP.

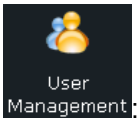




: Update the device, and user can clear the log.



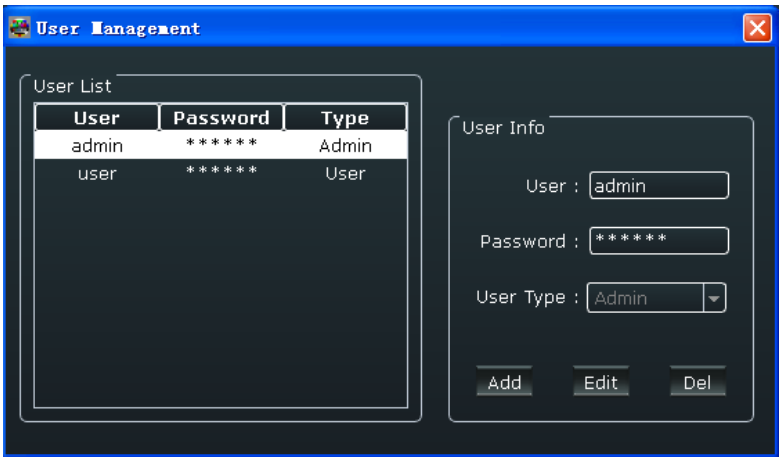
User Settings



: Operation permissions settings for manager, log in and set the log password of windows control program.

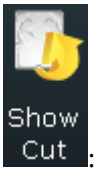
5. Communication Software Guideline

Software Operation

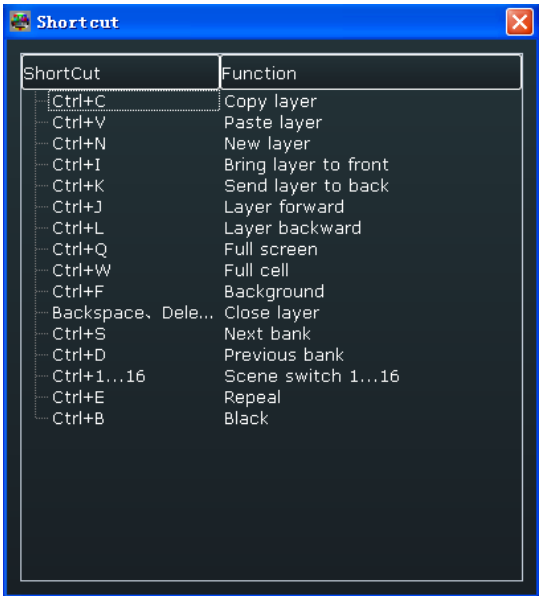


: Stage template select, VENUS X2 version 1.2 can not support this function.

Others



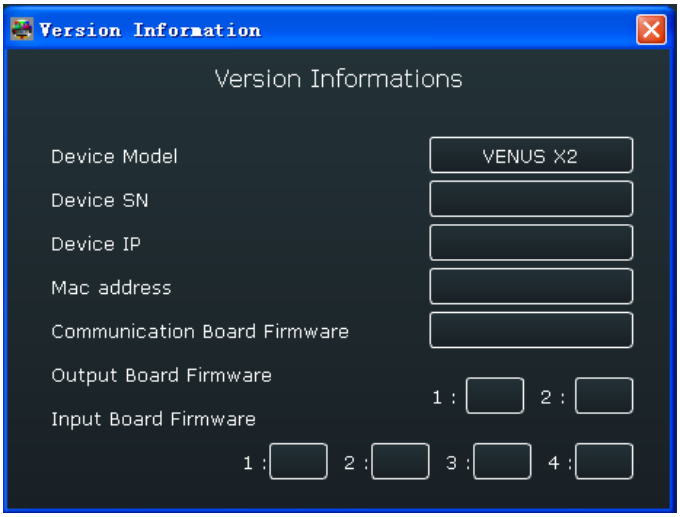
: Use shortcut key to operate fast and easily.

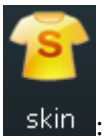


5. Communication Software Guideline

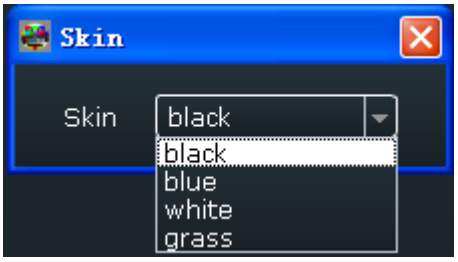
Software Operation

: Show the device version information.





: Can choose the skin as black, blue, white or grass.



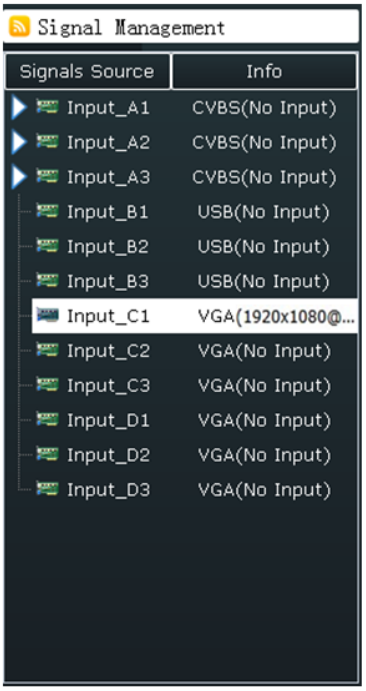
Control Interface

Signal Management

Connect the device, and it will show the output format below “Info”.

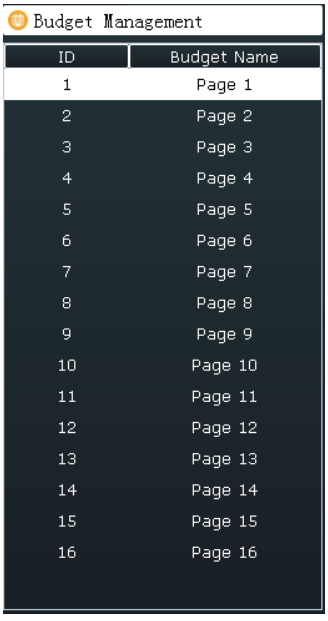
5. Communication Software Guideline

Software Operation



Budget Management

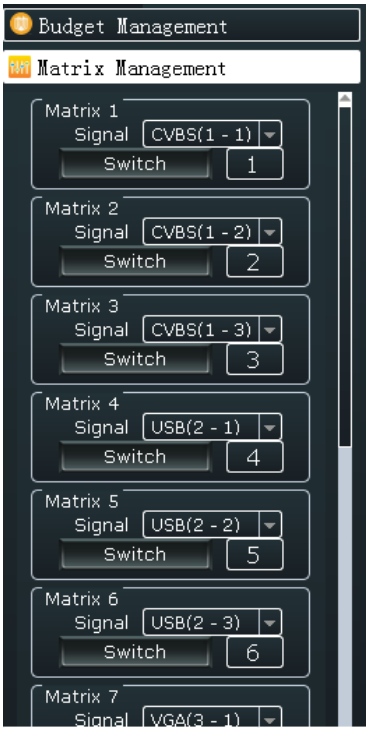
Right click the page name, user can save the settings to page, or open the saved page. VENUS X2 supports 16 kinds of pages. User can also edit the page's name and clear one page or clear all pages.



Matrix Management

In matrix mode, any operations are unavailable except signal selection and bank selection. Choose the signal, then click "Switch", the signal will be switched to

the corresponding output. Connect the signal to the corresponding output after setting.



Output Channel

One bank support max 12 output screens, the output channel support 16 scenes.

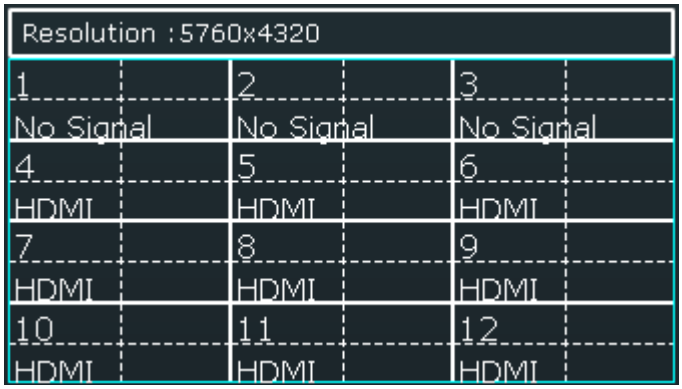


Image Processing

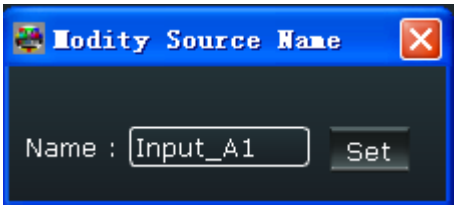
Put the mouse on the signal, right click the mouse, select the “Set Input Property”, user can choose input port and layer, scale, crop the image, and set

the display mode, mirror, color temp, brightness, contrast, alpha, saturation and sharpness. If image quality distorts by improper operation, it can be recover by reset.

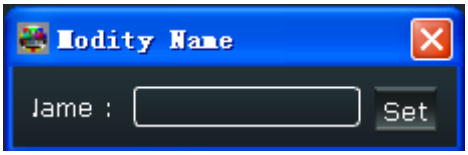
Modify the Name

The device can modify source and bank name, for easy identification and management.

Modify Source Name: Put the mouse on the signal, right click the mouse, select the “Modify the Name”, input the new name in the dialog.



Modify Bank Name: Put the mouse on the bank, right click the mouse, select the “Modify Name”, and input the new name in the dialog.



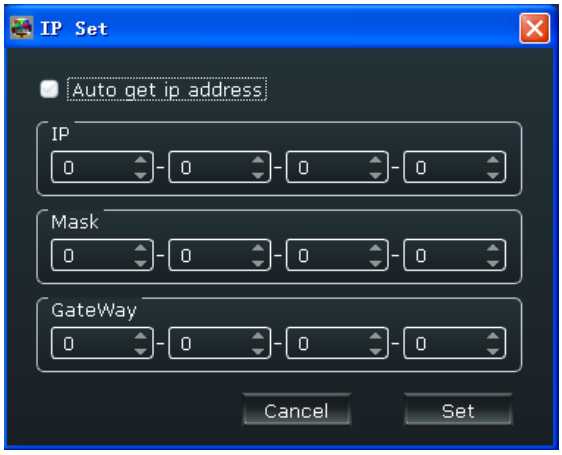
5. Communication Software Guideline

Software Operation

Set

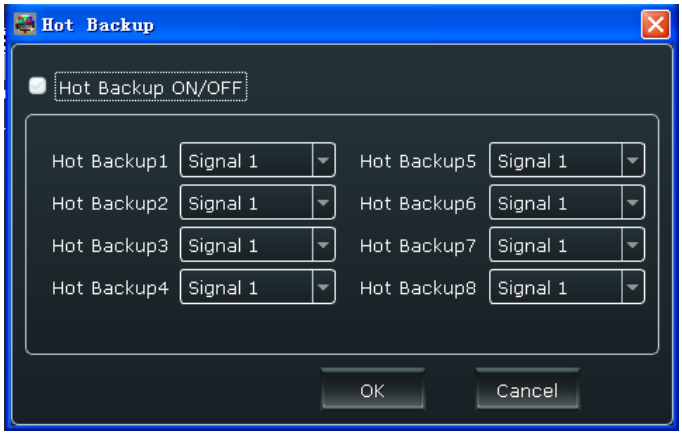
IP Set

Users can set equipment IP, mask and gateway, usually used when one computer control some devices or remote control. It takes effect immediately if users change IP through serial port, and if change IP through network, it takes effect after reopen the software. If choose “Auto get ip address”, user need not set the IP.



Hot Backup

User can enable or disable the hot backup function. Choose “ON” to set the backup signal for Hot Backup 1 to Hot Backup 8. It will switch to the backup signal if interrupt signal.



5. Communication Software Guideline

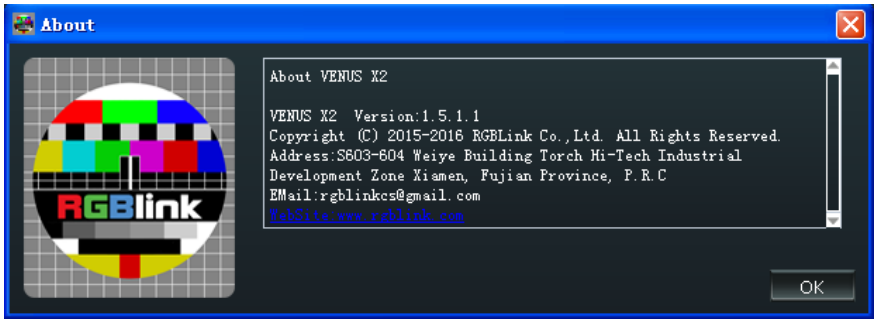
Software Operation

Language

The software supports both Chinese and English, user can switch the language by “Language” option.

Help

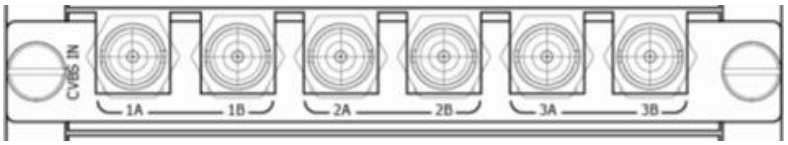
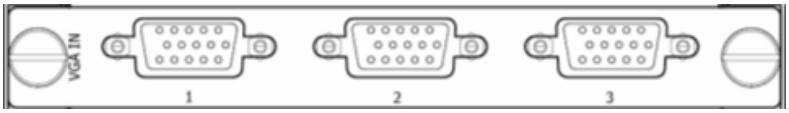
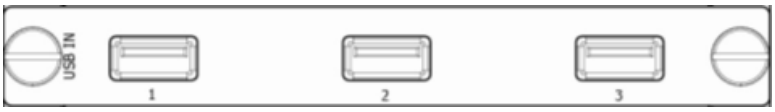
About: The information of the software version and the company.

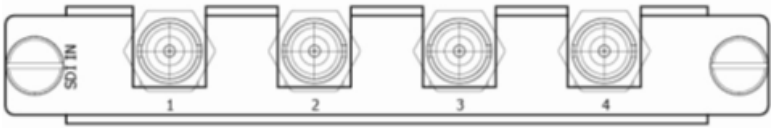


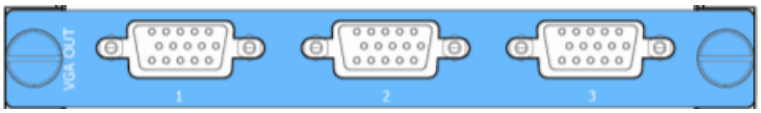
Information Toolbar

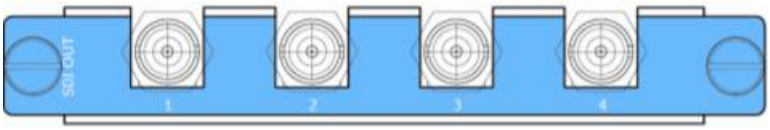
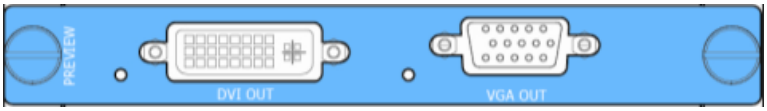
It shows the serial, device name, software version and serial number in the bottom of the software interface.

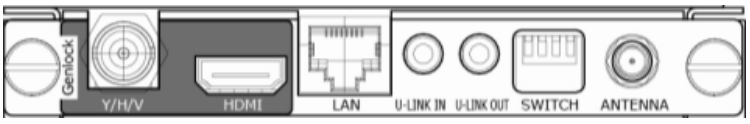
A. Specification

CVBS Input Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Inputs	6
Connector	Standard BNC Socket
Supported Standards	PAL/NTSC/SECAM
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i I 576i
VGA Input Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Inputs	3
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R, G, B, Hsync, Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800×600@60 I 1024×768@60 I 1280×1024@60 I 1440×900@60 I 1600×1200@60 I 1920×1080@60)
USB Input Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Inputs	3
Connector	Standard USB port
Max Support Resolution	1920×1080@30
Supported Standard	Support general Image and video formats
HDMI Input Module	
Interface Appearance	

Board Size	131.6(L)×20(W)（mm）
Number of Inputs	4
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
Embedded Audio Channels	Choose one from two inputs
Format Standard	HDMI 1.3
3G-SDI Input Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Inputs	4
Connector	Standard BNC Socket
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M - 3G Level A
Supported Resolution	SMPTE 425M (3G Level A) 4:2:2: 1920×1080/60 (1:1) I 1920×1080/50 (1:1). SMPTE 274M (HD): 1920×1080I/60 (2:1) or 1920×1080/30 (PsF) I 1920×1080I/50 (2:1) or 1920×1080/25 (PsF) I 1920×1080/30 (1:1) I 1920×1080/25 (1:1) I 1920×1080/24 (1:1) I 1920×1080/24 (PsF) SMPTE 125M (SD): 1440×487/60 (2:1) SMPTE ITU-R BT.656 (SD) I 1440×576/50 (2:1) Or dual link progressive, 625-line generic.
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
HDMI OUT+LINK Program Output Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
HDMI Output	
Number of Outputs	3

Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
Format Standard	HDMI 1.3
HDMI LINK IN	
Number of Inputs	1
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
Embedded Audio Channels	Choose 1 in 2
Format Standard	HDMI 1.3
HDMI LINK OUT	
Number of Outputs	1
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
Format Standard	HDMI 1.3
VGA Program Output Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Outputs	3
Connector	Standard DB15 Socket
Supported Resolution	VESA: 800×600@60 I 1024×768@60 I 1024×768@75 I 1280×768@60 I 1280×1024@60 I 1440×900@60 I 1600×1200@60 I 1680x1050@60 I 1920×1080@60
Signal Level	R, G, B, Hsync, Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
HDMI Program Output Module	

Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Outputs	4
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
Format Standard	HDMI 1.3
SDI Program Output Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Number of Outputs	4
Connector	BNC interface
Signal level	800mV±10%
Supported Standard	SMPTE 425M - 3G Level A
Supported Resolution	SMPTE: 480i I 576i I 720p50/59.94/60 I 1080i50/59.94/60 I 1080p50/59.94/60
Equalization	Belden 1694A 100m HD 1.485G, 300m SD 270Mbps
PREVIEW Output Module	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
DVI Output	
Number of Outputs	1
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 720p50/59.94/60 I 1080i50/59.94/60 I 1080P50/59.94/60 VESA: 800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60 I 1920×1080@50
VGA Output	
Number of Outputs	1

Connector	Standard DB15 Socket
Supported Resolution	VESA: 800×600@60 I 1024×768@60 I 1024×768@75 I 1280×768@60 I 1280×1024@60 I 1440×900@60 I 1600×1200@60 I 1680x1050@60 I 1920×1080@60
Signal Level	R, G, B, Hsync, Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Genlock Interface	
Interface Appearance	
Board Size	131.6(L)×20(W)（mm）
Genlock Input	
Number of Inputs	1
Connector	BNC
Signal Level	NTSC/PAL, TRI SYNC/Blackmagic signal
Supported Resolution	480i I 576i I 1080i50/59.94/60 I 720p50/59.94/60 I 1080P50/59.94/60
Genlock Input	
Number of Inputs	1
Connector	HDMI standard type A interface
Max Supported Resolution	1920×1200@60Hz
Signal Level	HDMI to TTL timing signal
Function	
Switch	Support any two inputs fade in fade out
Extras	
Communication	Windows control program, TCP/IP
Power Supply	100-240V IEC-3
Working Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	3-year parts and labor warranty

B. Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by a full 3-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair.

Headquarter: S603~604 Weiye Building Torch Hi-Tech Industrial Development Zone Xiamen, Fujian Province, P.R.C.

- **Tel:** +86-592-5771197
- **Fax:** +86-592-5771202
- **Customer Hotline:** 4008-592-315
- **Websites:**
  - ~ http://www.rgblink.com
  - ~ http://www.rgblink.cn
- **E-mail:** support@rgblink.com

C. Software Upgrade

Upgrade the software by the USB interface in the front panel of VENUS X2, the upgrade steps are as follows:

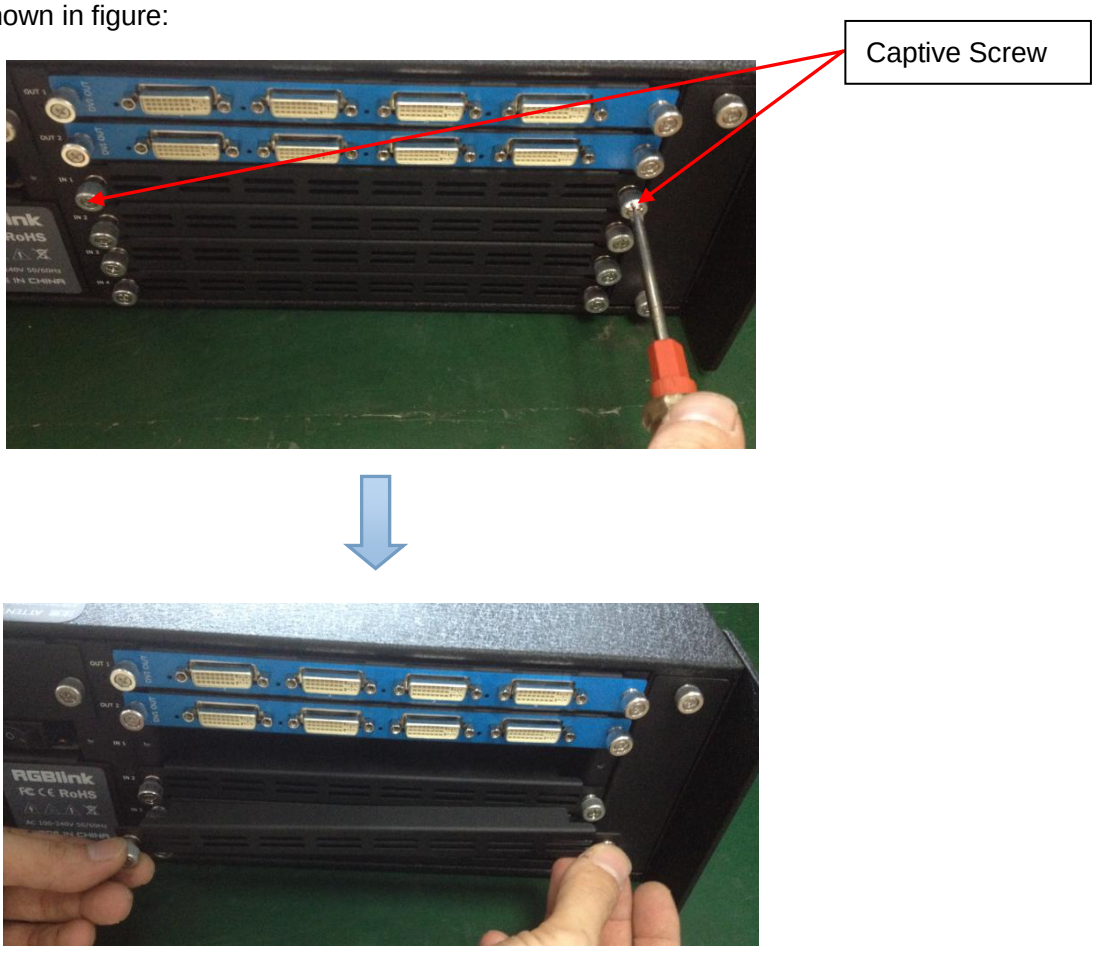
1. Copy the “*.pkg” file to the USB disk, and modify the file name to “_update.pkg”.
2. Plug into the power cord and make sure the VENUS X2 is in normal operation.
3. Plug the USB disk into the USB interface in the front panel of VENUS X2, the device will upgrade automatically. The buzzer sounds beeps during upgrade, the beeps will stop and the USB disk will delete the upgrade file automatically after complete upgrade.

D. Optional Module Installation and Replacement Instruction

VENUS X2 and VENUS X3 support replaceable input and output optional modules, user can install or replace the optional module according to actual need. The installation steps of VENUS X2 and VENUS X3 are the same. Here we take VENUS X3 for example, specific steps are as follows:

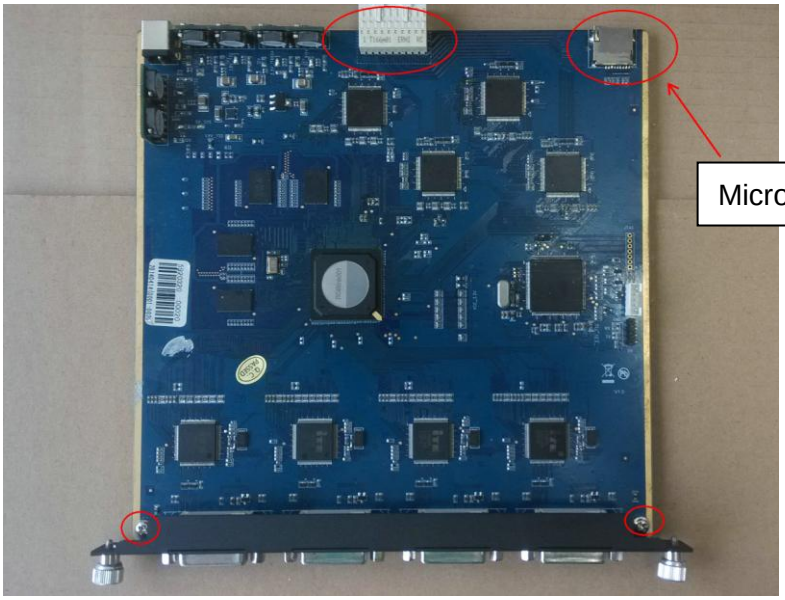
Install the Optional Module

1. Unscrew the 2 captive screws in input modules block, and pull out the input module block, as shown in figure:



2. Install the input module:

① For the whole PCB input module with DVI or HDMI interface, fix the input module on the plate with 2 M3*4 flat screws, also need to install the 2G Micro SD card.



DVI input module:

② For the joined PCB input module with CVBS, HDMI, VGA, USB or SDI interface, fix the input module on the plate with 2 M3*4 flat screws and 2 M3*4 round head screws.

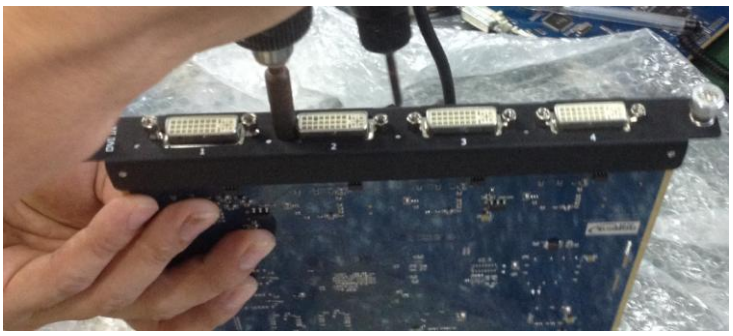
HDMI input module:

VGA input module:

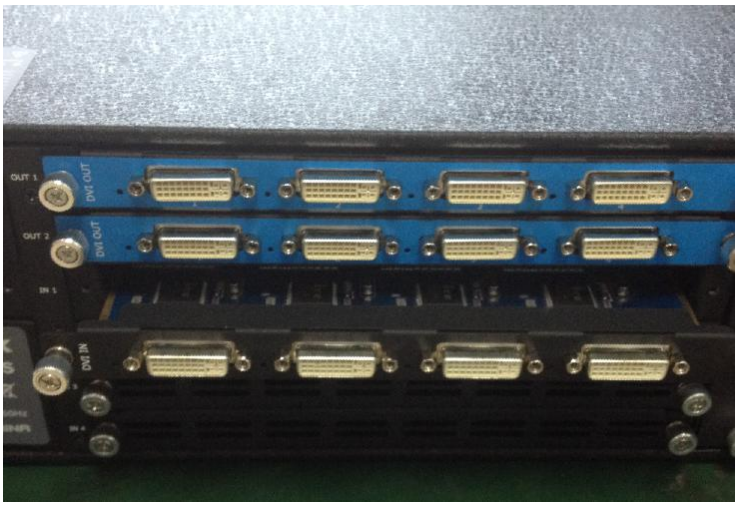
CVBS input module:

USB input module:

3. Fix the input module block with fixed screws, as shown in figure:



4. Push the input modules into the device along the slide rail, and screw the captive screws, as shown in figure:



Note: The install steps of output module installation and input/output module replacement are the same as above.